JOE FLYNN'S PARALLEL PATH MAGNETIC TECHNOLOGY

by Tim Harwood, MA © 2003

There is a widespread opinion common to the mainstream academic community and also to various alternative scientific forums that some kind of exotic new physics will be required to design and implement over-unity technologies—that is to say, electrical motors, electrical generators or other apparatus which produce an excess of magnetic force or energy above the value actually inputted.

However, this has recently been experimentally demonstrated not to be the case, as I have validated myself in simple $20 experiments undertaken at home with parts bought from the local hardware store.

It is the purpose of this article to educate readers that, with care, thought and a little work, it can be demonstrated that existing textbook physics law freely allows for the extraction of excess electrical energy from magnetic systems.

The credit for this groundbreaking research goes to Joe Flynn, who has been engaged in magnetic flux research for over 25 years now. His work is longstanding, comprehensive and, in later years, well funded. It is reported that US$7 million has been spent to date, with over $1 million alone put into developing a revolutionary high-performance magnetic motor. His equipment is validated, and apparently is already in mass production for selected customers.

Since many lines of research have been formulated and explored by Joe Flynn, the following article presents only a brief summary of some of his best apparatus, but is nonetheless sufficient to convey the basic ideas and provide a framework within which one can undertake experiments.

Principles of Operation

Figure 1 is taken from Joe Flynn's US Patent No. 6,246,561, awarded on June 12, 2001, and filed on July 31, 1998. It explains a simple magnetic-force multiplication experiment, which forms the basis for the Flynn magnetic art.

If the windings on either side of the central magnet, which are normally connected in series, are properly pulsed, the field of the permanent magnet in the centre will be diverted to the opposite side of the core flux path provided. Or, in alternative language, the side of the core that is pulsed is demagnetised, relative to the field of the permanent magnet used in the apparatus. This is elementary textbook physics that anyone can understand.

So what is surprising about this apparently simple apparatus is that the armature on the side of the flux core will contain 1.75 times more units of magnetic force than could be manifested by the electrical input to the apparatus alone.

Since the ability to move force arbitrarily from one point to another is the basis for motion or work, however simplistic, we therefore have a basis for a system that can be developed for practical technological purposes.

Expressed in alternative language, we also have the capability to engineer a time-varying magnetic field, without the need for moving parts, which will allow development of systems that output electrical energy. Both capabilities are highly desirable and offer substantial opportunity for technical development.

Expanding upon this basic experiment, there is a second simple and logical improvement in layout, illustrated in Figure 2, which should be obvious but has been shown not to be the case. In this instance, the pulse is centrally located and a dual flux field layout employed which both demagnetises the core relative to one magnet and magnetises it relative to the other. Since the two actions are complementary, the input required to manifest the flux switching effect is halved, therefore doubling "efficiency".

It should be noted that while the efficiency is doubled, the absolute output may not be significantly improved. This is because the major weakness of this effect and technology is flux saturation of the core, with values depending upon the specific properties of the B–H curve of the core material employed, limiting absolute output of both layouts the same.

The previous statements are not required to be taken on trust; simple experiments have been proposed by Joe Flynn, such that anyone can validate this effect for

Figure 1

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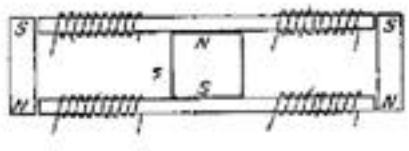

Fig. 16 B

1.75 times more force is delivered to the legs of the core than is provided by the electrical input to the control coils.

Figure 2

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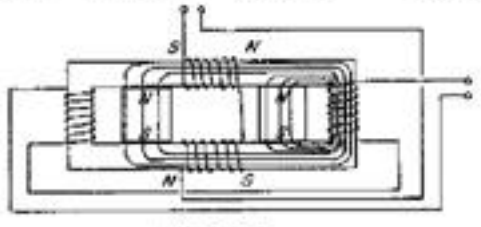
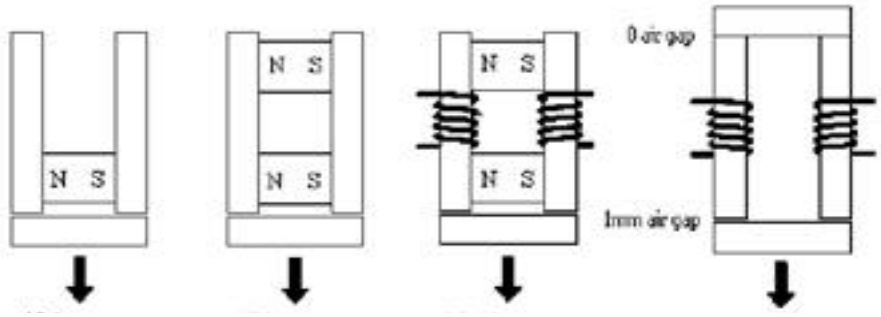


Fig. 45 Z

3.47 times more force is delivered to the legs of the core than is provided by the electrical input to the control coils.

Figure 3

Simple Magnetic Force Multiplication Experiments



421 grams
One magnet

1721 grams
Two magnets

3845 grams
Parallel Path

1091 grams
Conventional

themselves. Figure 3 is a simple experiment, taken from the Flynn website, which can be used to validate the principles put forward in this article.

An even simpler non-electrical flux experiment was proposed by "GM" in the Parallel Path e-group. My apparatus is illustrated in Figure 4. It is no more than magnets and steel staple strips, bought from a local hardware store for a total of under US$20. The Parallel Path effect can be replicated with identical apparatus, at only a slight increase in cost and complexity, with the addition of a simple 12v-polarity reversible power supply, such as those commonly sold to power computer speakers, among other household applications.

Conserving Energy/Field Potential

One of the aspects of the Flynn technology that people find most difficult to understand is how you can have a device that delivers 3.47 times more units of magnetic force than is electrically inputted, yet does not violate accepted principles of textbook physics. I feel that this apparent puzzle cannot be better explained than by reference to Joe Flynn's own analysis of the experiment presented in Figure 3:

"Since the Parallel Path System produced 3.47 times more force than the conventional system, with the same electrical input, it appears to violate conservation; this is only true when observed from a traditional viewpoint. The system contains three flux-producing sources (two magnets and an electromagnet) which together are capable of producing a far greater force than is actually produced. All of the flux sources together can produce a force of 13.11 units, therefore in the physical sense a loss of 1 – (9.01 / 13.11) = 31% is realised."

So the system is 347% efficient in terms of delivered magnetic force compared to net electrical input, yet still conforms to the accepted physical principles of field conservation by being only 69% efficient in terms of the fields present in the system. However surprising this result may appear, the analysis presented is in outline correct, with the difference between fields present in the system and net electrical input being the important concept presented.

Figure 4

In the PP e-group, GM proposed a simple experiment to illustrate how small changes in layout can alter magnetic force in cores. Experiment done with $20 of parts from local hardware stores.

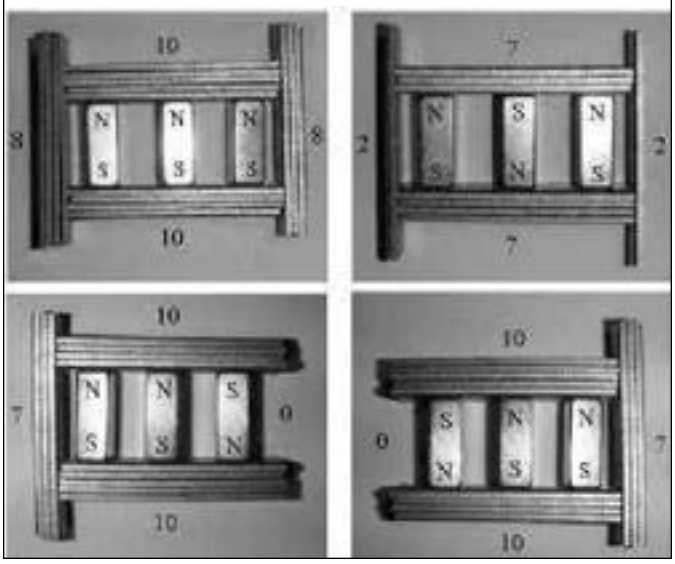
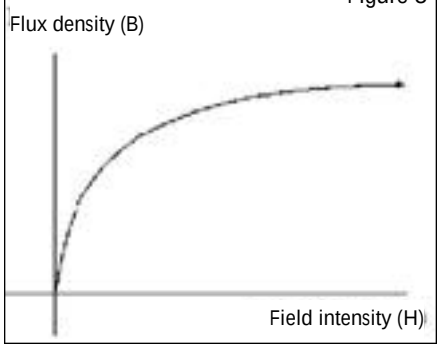


Figure 5



Losses in the System

In order to optimise flux cores, an appreciation of the physics that underlies the transfer of flux within a core is required. The normal magnetisation curve, or B–H curve, is a mathematical relationship between applied field intensity, H, and resultant flux density manifested in the core, B. It varies according to core material, and the curve will shift if there is a starting magnetism within the core, such as that provided by the field of a permanent magnet. If the starting magnetism is excessive, the core is saturated and will not properly respond to the applied force, H. A simple B–H curve is illustrated in Figure 5.

Hysteresis is a delay between applied magnetic force, H, and resultant flux density, B, that again varies according to material type. It also manifests as a delay between the termination of force, H, and the manifestation of flux density, B. So, in simple terms, the system will not turn on instantly and will not turn off instantly. This is because the magnetic memory of the core means that a flux vector remains within it, even when the application of magnetic force, H, has been terminated. If we apply a reversed force, H, to the core, the basic B–H curve is now expanded, as in Figure 6, with the memory effect also illustrated.

In order to return to the initial switched state, the remanent magnetism must now be overcome, hence input once in operation will be greater than that required for the very first pulse. The area within the hysteresis curve gives a rough estimate for the amount

of wasted energy, and along with other conventional sources of losses resultant in flux transfer within a core is what reduces the efficiency of flux cores from maximum values of 2 or 4 down to values such as 1.75 or 3.47, typically.

Motor Apparatus

Although numerous practical applications abound for this effect, electric motor design remains the most outstanding opportunity. To this extent, again, a few simple images should be sufficient to explain how the basic flux-switching apparatus can be turned into a highly efficient electrical motor.

The first motor, shown in Figure 7, is one I have proposed to validate the flux switching effect at a most basic level. It illustrates the point made in the Flynn patent, that the armature of the core can be removed and replaced with a motor flux path. This first motor is not claimed to be highly efficient, but it helps one to understand how the transition from simple flux core to motor takes place.

The next motor, shown in Figure 8, is again taken directly from the Flynn patent and illustrates the next intermediate step to motor design. The fields of the permanent magnets are alternatively switched from one side of the surrounding flux cores to the other, alternately interacting with N and S poles on the rotor, imparting motion to the central rotor shaft.

With proper financial support and the facilities to have Metglas® cores custom moulded, Joe Flynn was able to develop improved motor apparatus, shown in Figure 9. No detailed performance numbers have been released for this motor, whose precise characteristics remain proprietary to Joe Flynn at this time. However, the optimisation is so advanced that it is stated to possess certain exotic performance properties such as cool, ambient operation and reduced current draw.

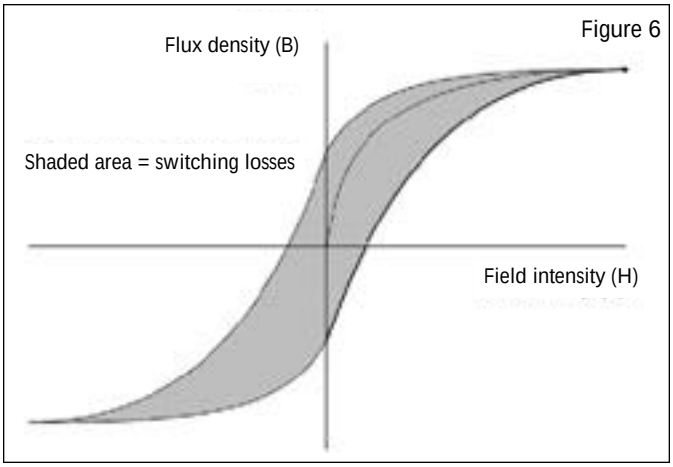
Electrical Apparatus

Many readers will no doubt have noticed the similarity of the first illustration presented in this document to the so-called Tom Bearden MEG (Motionless Electromagnetic Generator). This is fair comment, and Joe Flynn has always highlighted this issue.

However, it has been commonly stated that Joe Flynn simply developed the mechanical apparatus and that the MEG, with its electrical functionality, is distinct and more advanced than the mechanical Flynn apparatus. But this is shown not to be the case by a careful examination of the Flynn patent, in which the following is stated in the Power Conversion section:

"The construction shown in Figure 45A utilises four control coils and a single permanent magnet, and the construction shown in Figure 45X uses two control coils and two permanent magnets. The flux that would normally be supplied by a primary winding is supplied by the static flux of the permanent magnet or magnets, and the control coils convert this static flux into a time-varying flux in a novel way. Both arrangements use two secondary coils; the secondary coils are placed in the region of the continuous flux path that would be occupied by an armature or rotor in the linear or rotary arrangements. The regions of the flux paths that perform work are the same in all cases…

Figure 6



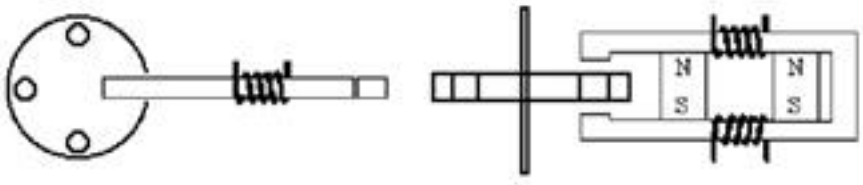
"By alternating the polarity of the control coils during one cycle, one working region experiences an increasing flux and the opposite region experiences a decreasing flux, and during the next cycle the opposite occurs. This results in the induction of a voltage in the secondary coils that is decided by the magnitude of the change in flux in the working region and the time in which this change occurs. The novelty of this discovery is that the primary flux inducing the voltage in the secondary coils is supplied by the permanent magnet or magnets and is far greater than the flux supplied by the control coils."

Figure 10, taken directly from the Flynn patent, makes the point even clearer. As can be seen, the device illustrated is in all functional respects absolutely identical to the so-called Tom Bearden MEG. In respect of this situation, Joe Flynn has stated that his intellectual property rights will be robustly defended, by legal action if necessary, and he regards himself and his company as being in possession of exclusive rights to the single flux field generator core layout.

As regards replication of electrical output–oriented flux core devices, certain important details need to be stated. For example,

Figure 7

Simple Parallel Path Technology Demonstrator Motor



Designed to demonstrate core principles, not provide over-unity.
4 magnetically permeable cores placed on rotor section.
Flux is switched through core section on approach to armature section.
When armature section is in register with rotor cores, flux is switched back,
and rotor core free-wheels away from register.

Figure 8

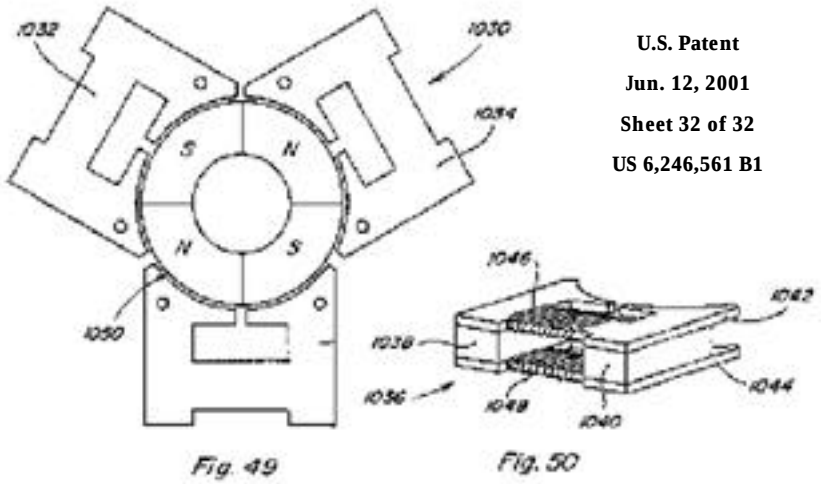


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Fig. 49 Fig. 50

grade-8 ceramic magnets should be used so as to avoid flux saturation of the core—a basic error that many early experimenters wasted time over. The requirement for strong magnets to obtain over-unity results is as much of a myth as the idea that "new physics" is required.

But perhaps the greatest trade secret of the electrical devices—one which requires several lengthy non-disclosure agreements to be signed before it can be disclosed—is that the input and output circuits must be closed in series. The disclosure of this technique amounts to putting the basic MEG methodology fully into the public domain.

The reason for this circuitry requirement is obvious enough, with only a little analysis. If the output circuit is closed when the input circuit is activated, then the input energy simply leaks into the output circuit, as in an ordinary transformer. So no flux switching effect is manifested, and the field of the permanent magnet is static in time. Thus you have an ordinary transformer with reduced efficiency because of the core flux saturation effect provided by the permanent magnet.

This is one of the most important points to make about the Flynn apparatus. If you approach it as if it is a normal piece of scientific equipment, then proper optimisation is not greatly problematic. For example, having more turns on the output coils simply means more voltage and less current—exactly as standard textbook equations predict. Increased input voltage enables faster switching speeds, a consequent greater rate of change of magnetic flux, resulting in higher absolute output, but only up to the flux saturation limit of the core material.

The Future of Flux Core Motors

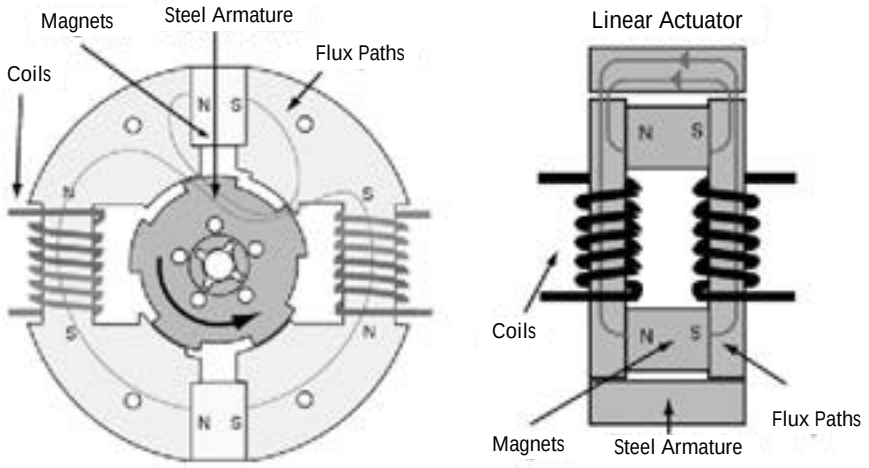
There has been a lot of confusion about the flux core technology which Joe Flynn has pioneered. I believe this is due in large part to the way it was originally presented to the public. Contrary to claims, this is not a nuclear physics device, nor an exotic vacuum energy pumping system, but is concerned with the ordinary manipulation of flux within a core. It is also illogical to use the single flux field layout when the dual flux field layout doubles efficiency, for no significant increase in unit cost.

Furthermore, this technology is optimally implemented to multiply the application of magnetic force, with particular regard to the design and implementation of high-performance electric motors. Inevitably, the obscure electrical effect is limited by the flux saturation point of the core material employed, ensuring absolute output is always relatively low.

While making predictions about future adoption of technology is always difficult, it seems reasonable to expect flux core motors will replace conventional designs across a broad range of applications. With high torque, relatively low manufacturing cost, and performance almost beyond belief, there appears to be little to stop commercial acceptance of this remarkable technology. ∞

Figure 9

Optimal Flux Core Motor Construction



References

• Joe Flynn's website, http://www.flynnresearch.net/
• MEG US Patent No. 6,362,718, at http://www.rexresearch.com/meg/meg.htm

About the Author:

Tim Harwood, MA, has followed the "free energy" scene since the early days of the cold fusion movement. With genuine post-graduate research qualifications, he seeks to bring academic rigour, combined with eloquence of expression, to free energy research. He is probably best known for the "CD motor" project which helped popularise the Adams motor technology, and for running the old Parallel Path and Adams motor e-groups. He can be reached by email at timharwood@usa.net.